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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/025,318

12/19/2001

Nicholas Buonocunto

JWB-2001-13-P

8132

7590

01/30/2004

James W. Badie, Stoll, Miskin & Badie  
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EXAMINER

TRAN, THUY V

ART UNIT

PAPER NUMBER

2821

DATE MAILED: 01/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Applicant(s)</b>	<b>Applicant(s)</b>	
	10/025,318	BUONOCUNTO, NICHOLAS	
	<b>Examiner</b>	<b>Art Unit</b>	
	THUY V. TRAN	2821	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 December 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) 5-9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 11 is/are rejected.
- 7) ☒ Claim(s) 2-4, 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All   b) ☐ Some \* c) ☐ None of:  
    1. ☐ Certified copies of the priority documents have been received.  
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
    3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-4 and 10-11, drawn to an electronic ballast system configured with an inverter ballast circuit, which is regulated by a power factor correction circuit and has a sweep frequency circuit for supplying an oscillating current to power a fluorescent lamp without preheating it, classified in class 315, subclass 291.
  - II. Claims 5-8, drawn to an inverter ballast circuit configured with a half-bridge inverter and a driver for operation of a fluorescent lamp, classified in class 315, subclass 209R.
  - III. Claim 9, drawn to a power factor correction circuit, classified in class 323, subclass 207.
2. The inventions are distinct, each from the other because:
3. Inventions Group I and Group II are related as combination and subcombination.

Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because it can be configured with a full bridge inverter having a plurality of transistors for high-power application(s). The subcombination has separate utility such as converting DC to AC in a ballast circuit for operating a discharge lamp with low-power application(s).

Art Unit: 2821

4. Inventions Group I and Group III are related as combination and subcombination.

Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because it can be configured with a step-up converter having a transformer for generating a higher output power. The subcombination has separate utility such as producing a DC output voltage with a predefined power factor.

5. Inventions Group II and Group III are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention Group III has separate utility such as producing a DC output voltage with a predetermined power factor. See MPEP § 806.05(d).

6. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

7. During a telephone conversation with Mr. James W. Badie on 12/29/2003, a provisional election was made with traverse to prosecute the invention of Group I, claims 1-4 and 10-11. Affirmation of this election must be made by applicant in replying to this Office action. Claims 5-9 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

***Detailed action***

***Drawings***

Art Unit: 2821

8. The drawings submitted on 12/19/2001 are accepted.

***Abstract Objections***

9. The abstract of the disclosure is objected to because of unclear language contained therein. Correction is suggested as follows:

Line 2, delete “with and”; and

Line 5, delete “for”.

Correction is required. See MPEP § 608.01(b).

***Claims Objections***

10. Claims 1-3 and 10-11 are objected to because of unclear language contained therein.

Correction is suggested as follows:

Claim 1, line 2, insert --an output for-- between “and” and “providing”;

Claim 1, line 3, insert --therefrom-- between “output” and “,”

Claim 1, line 7, insert --an output for-- between “and” and “providing”;

Claim 1, line 7, insert --therefrom-- between “output” and “,”

Claim 1, line 9, change “converter” to --correction circuit--; and insert --first-- between “a” and “sweep”;

Claim 1, line 10, change “an” to --a first--;

Claim 2, line 15, insert --second-- between “a” and “sweep”; and change “an” to --a second--;

Claim 3, line 2, insert --second-- between “said” (first occurrence) and “oscillating”;

Claim 10, line 2, insert --first-- between “said” (first occurrence) and “fluorescent”;

Claim 11, line 2, insert --an output for-- between “and” and “providing”;

Art Unit: 2821

Claim 11, line 3, insert --therefrom-- between “output” and “,”;

Claim 11, line 7, insert --an output for-- between “and” and “providing”; and insert --therefrom-- between “output” and “,”; and

Claim 11, line 9, delete “first”.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

11. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

12. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 4, the term “said sweep frequency circuit” in lines 3 and 4 renders the claim indefinite since it is not clear whether “said sweep frequency circuit” is of the first inverter ballast circuit or of the second inverter ballast circuit (*The applicant is suggested to direct his attention to the “claims objections” set forth in this Office Action for clarification*). Clarification is required.

***Claim Rejections - 35 USC § 102***

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 2821

14. Claims 1 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Gu et al. (U.S. Patent No. 5,907,223).

With respect to claim 1, Gu et al. discloses, in Figs. 10 and 11, an electronic ballast system comprising (a) an EMI filter [52] having an input connected to a source of excitation (connected to line; see Fig. 10) and an output for providing a filtered output therefrom, (b) a full-wave rectifier [56] (see col. 4, line 47) having an input connected to the output of the EMI filter and providing a rectified dc voltage, (c) a power factor correction circuit [58] having an input connected to the output of the full-wave rectifier and an output for providing a power factor regulated output therefrom, and (d) a first inverter ballast circuit [110] having an input connected to the output of the power factor correction circuit, wherein the first inverter ballast circuit has a sweep frequency circuit [Q3, Q4] (see Fig. 11) for supplying an oscillating current to power a first fluorescent lamp [60] (see col. 2, line 61) without the need for preheating the lamp.

With respect to claim 11, Gu et al. discloses, in Figs. 10 and 11, an electronic ballast system comprising (a) an EMI filter [52] having an input connected to an electrical source (connected to line; see Fig. 10) and an output for providing a filtered output therefrom, (b) a full-wave rectifier [56] (see col. 4, line 47) having an input connected to the output of the EMI filter and providing a rectified dc voltage, (c) a power factor correction circuit [58] having an input connected to the output of the full-wave rectifier and an output for providing a power factor regulated output therefrom, and (d) an inverter ballast circuit [110] having an input connected to the output of the power factor correction circuit, wherein the inverter ballast circuit has a sweep frequency circuit [Q3, Q4] (see Fig. 11) for supplying an oscillating current to power a

Art Unit: 2821

fluorescent lamp [60] (see col. 2, line 61) operatively associated with the inverter ballast circuit without the need for preheating said lamp.

15. Claims 1 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Ribarich et al. (U.S. Patent No. 6,031,342).

With respect to claim 1, Ribarich et al. discloses, in Figs. 2 and 3A-3B, an electronic ballast system comprising (a) an EMI filter [4] having an input connected to a source of excitation (connected to line 2; see Fig. 2) and an output for providing a filtered output therefrom, (b) a full-wave rectifier [6] having an input connected to the output of the EMI filter and providing a rectified dc voltage, (c) a power factor correction circuit [8] having an input connected to the output of the full-wave rectifier and an output for providing a power factor regulated output therefrom, and (d) a first inverter ballast circuit [12] having an input connected to the output of the power factor correction circuit, wherein the first inverter ballast circuit has a sweep frequency circuit [76, 78] (see Fig. 3A) for supplying an oscillating current to power a first fluorescent lamp [16] (see Fig. 3B; col. 2, lines 24-25) without the need for preheating the lamp.

With respect to claim 11, Ribarich et al. discloses, in Figs. 2 and 3A-3B, an electronic ballast system comprising (a) an EMI filter [4] having an input connected to an electrical source (connected to line 2; see Fig. 2) and an output for providing a filtered output therefrom, (b) a full-wave rectifier [6] having an input connected to the output of the EMI filter and providing a rectified dc voltage, (c) a power factor correction circuit [8] having an input connected to the output of the full-wave rectifier and an output for providing a power factor regulated output



Art Unit: 2821

therefrom, and (d) an inverter ballast circuit [12] having an input connected to the output of the power factor correction circuit, wherein the inverter ballast circuit has a sweep frequency circuit [76, 78] (see Fig. 3A) for supplying an oscillating current to power a fluorescent lamp [16] (see Fig. 3B; col. 2, lines 24-25) operatively associated with the inverter ballast circuit without the need for preheating said lamp.

***Allowable Subject Matter***

16. Claims 2-4 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The Applicant is noted that claim 4 must be corrected to overcome the 112/2<sup>nd</sup> paragraph rejection to be allowed following the allowability of claim 2 that it depends on.

17. The following is a statement of reasons for the indication of allowable subject matter:

The closest prior art fails to disclose or fairly suggest:

- An arrangement of the following components/parts in the electronic ballast system (a) a power supply having an input connected across hot and neutral terminals and providing a second dc voltage having a positive and negative potential, (b) switching means having an input connected to the output of the power supply and having a plurality of switch contacts, (c) a diode having an anode and a cathode with the anode thereof connected to the positive potential of the second dc voltage, (d) a battery having positive and negative terminals with the negative terminal connected to the negative potential of the second dc voltage and the positive terminal connected to said cathode of said diode, and (e) a second inverter ballast circuit having an input

Art Unit: 2821

arranged by means of the plurality of the switch contacts to be interconnected to the positive terminal and the negative terminal of the battery when the second dc voltage of the power supply is absent, wherein the second inverter ballast circuit has a sweep frequency circuit for supplying an oscillating current to a second fluorescent lamp without the need of preheating the second fluorescent lamp, as called for in claim 2 (claims 3 and 4 are dependent on claim 2); and

- An arrangement, in the electronic ballast system, of an emergency inverter ballast circuit for supplying power to the fluorescent lamp when the first inverter system is disabled, without the need for preheating the lamp, as called for in claim 10.

***Citation of relevant prior art***

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Prior art Trestman (Pub. No. US 2003/0111968) discloses an apparatus and method for operating a HID lamp.

Prior art Hui et al. (Pub. No. US 2002/0145393) discloses an electronic ballast circuit for operating a HID lamp.

Prior art Liu et al. (U.S. Patent No. 6,486,616) discloses a dual control dimming ballast.

Prior art Weng (U.S. Patent No. 6,034,489) discloses an electronic ballast circuit.

Prior art Buonocunto (U.S. Patent No. 5,808,421) discloses an electronic ballast circuit.

Prior art Caldeira et al. (U.S. Patent No. 5,623,187) discloses an electronic ballast circuit.

Prior art Wood (U.S. Patent No. 5,612,597) discloses an electronic ballast circuit.

Prior art Moisin et al. (U.S. Patent No. 5,583,402) discloses an electronic ballast circuit and a control method.

Prior art Hesterman (U.S. Patent No. 5,568,041) discloses a low cost power factor correction circuit and method for electronic ballast circuits.

Prior art Bogdan (U.S. Patent No. 5,515,261) discloses a power factor correction circuit.

Prior art Chen et al. (U.S. Patent No. 5,363,020) discloses an electronic power controller.

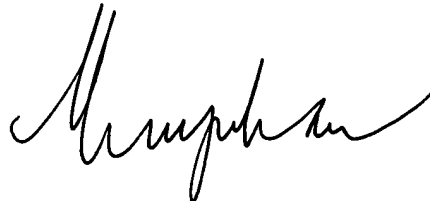
***Inquiry***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to THUY V. TRAN whose telephone number is (571) 272-1828. The examiner can normally be reached on M-F (8:30 AM-6:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, DON K. WONG can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

THUY V. TRAN  
Examiner  
Art Unit 2821



T.T.  
January 12<sup>th</sup>, 2004